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**(54) PRODUCTION OF AQUEOUS HYDROGEN PEROXIDE SOLUTION**

(57) Abstract:

**PROBLEM TO BE SOLVED:** To suppress the decomposition of hydrogen peroxide and obtain an aqueous hydrogen peroxide solution having a high concentration by reacting hydrogen with oxygen in a reaction solvent containing the carboxylic acid salt of a platinum group metal.

**SOLUTION:** This method for producing an aqueous hydrogen peroxide solution comprises charging 1 mg to 10 g, preferably 1 mg to 1 g, of a particulate platinum group metal 1-5C carboxylic acid salt selected from

palladium acetate, palladium oxalate, palladium trifluoroacetate, rhodium acetate, rhodium trifluoroacetate, etc., and having a specific surface area of 0.01-10000 m<sup>2</sup>/g, and 100 ml of a reaction solvent comprising water and/or a 1-4C alcohol into a reaction vessel, charging oxygen and hydrogen in a partial pressure ratio of 1:50 to 50:1 into the reaction vessel and subsequently reacting the oxygen with hydrogen at a pressure of the atmospheric pressure to 150 kg/cm<sup>2</sup>.G, preferably 5-50 kg/cm<sup>2</sup>.g, at 5-60°C, preferably 10-50°C. The method does not require a process for removing an additive such as an acid, a halide ion or formaldehyde.

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